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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/743,985	04/09/2001	Serge Kaliaguine	6670/1E517-U	1564

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EXAMINER

BOS, STEVEN J

ART UNIT

PAPER NUMBER

1754

DATE MAILED: 09/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/743,985

Applicant(s)

Kaliaguine et al

Examiner

Steven Bos

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 22, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28-39, 50, and 51 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-39, 50, and 51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 28-39,50,51 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The instant specification does not enable the direct synthesis of the perovskite as is instantly claimed because the instant claims do not provide a source of oxygen as would be required in order to form the perovskite. The claims only require combining components A, B and C with no requirement for oxygen (when starting powders in the form of chlorides are selected) that would be necessary in order to form the instantly claimed metal oxides.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 28-39,50,51 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Kosova et al. journal article or the Baek et al. journal article or the Wan et al. journal article or the Xue et al. journal article or each of the Wang et al. journal articles.

Each of the above journal articles suggests the instantly claimed process of mechano synthesizing metal oxides of the perovskite structure which would have a nanocrystalline structure since each of the taught processes is the same as that instantly claimed.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, *In re Malagari*, 182 USPQ 549.

Applicant's arguments filed July 22, 2003 have been fully considered but they are not persuasive.

Applicant states that Kosova does not teach the use of high energy milling.

However Kosova teaches the use of a planetary mill which is the same mill instantly disclosed on pg. 9, second paragraph, as suitable for "high energy milling." Furthermore, such mill is stated as inducing nanostructural particles of the components in the mill. Therefore it would appear that because Kosova teaches the use of a planetary mill formation of nanocrystalline structure particles would be obtained by the taught milling process. In any event, Fig. 1 of

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Kosova teaches X-ray diffraction(XRD) patterns of the milled perovskite product which would appear to be the same as that instantly claimed.

Applicant states that each of Wan, Xue, and the three Wang references teach two milling steps of a preliminary conventional milling step followed by a high energy milling step.

However the taught conventional milling would appear to meet the instantly claimed high energy milling since such is contemplated on instant pg. 9, second paragraph, to include conventional milling machines such as planetary mills and horizontal mills. The instantly disclosed and claimed process contemplates back to back or consecutive high energy milling steps so that the instantly claimed "consisting essentially" language would not exclude that taught by the prior art. In any event, each of the references teaches or at least suggests that milling starting powders directly forms perovskites which is what is instantly claimed and contemplated. No distinction is seen between the prior art teachings and the instantly contemplated invention.

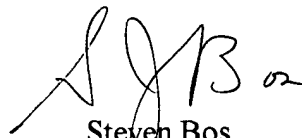
Similar arguments were made with respect to Baek except that it is argued that a heating step is required. The response above is incorporated herein by reference. Furthermore, Baek teaches that milling directly forms the perovskite on pg. 119, conclusion, so that no heating is required in order to form the desired perovskites. Also see section 3.3, first paragraph, on pg. 118 of Baek.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Bos whose telephone number is (703) 308-2537. The examiner is on the increased flexitime program schedule and can normally be reached between 8AM and 6PM Monday through Friday. The FAX No. for amendments is 703-872-9306. Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to read 'S. Bos' with a stylized flourish at the end.

Steven Bos
Primary Examiner
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